

REMARKS

Responsive to the outstanding Office Action, applicant has carefully studied the Examiner's rejections and the comments relative thereto. Favorable reconsideration of the application is respectfully requested in light of the amendments and following detailed arguments.

In the response, claims 11 and 13 have been amended and claims 14 and 15 were canceled. It is respectfully submitted that no new matter has been presented in these amendments.

CLAIM OBJECTIONS

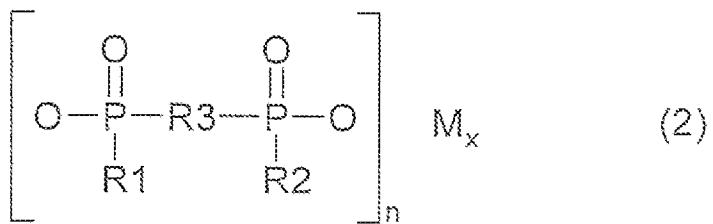
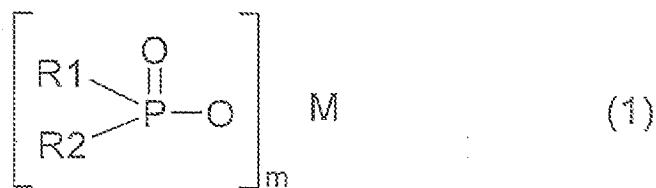
The Examiner objected to claims 14 and 15 for being broader in scope than the claims from which they depend. In response thereto, claims 14 and 15 have been canceled. It is therefore believed that this objection is now moot.

Rejections under 35 USC 103

Claims 11, 13-15 and 17-20 are rejected under 35 USC 103 as being unpatentable over Saga (US 2005/0113496) in view of the previously cited Sugino reference and further in view of Schmid (US 4,963,610).

Independent claim 11 has been amended herein. Independent claim 11, as amended, defines a flameproof polyamide molding compound. The compound comprises 20 - 80% by weight of one or more aliphatic polyamides and 1 - 40% by weight of one or more partly aromatic polyamides, which are selected from the group consisting of polyamides, the periodical units of which are derived from terephthalic acid

and isophthalic acid and adipic acid and also hexamethylene diamine, and 5 – 15% by weight of a flameproofing agent, containing a



phosphinic acid salt of formula (I) and/or a diphosphinic acid salt of formula (II) and/or polymers thereof. R^1, R^2 are the same or different and is $\text{C}_1\text{-C}_6$ alkyl, linear or branched, and/or aryl; and R^3 is $\text{C}_1\text{-C}_{10}$ alkylene, linear or branched, $\text{C}_6\text{-C}_{10}$ arylene, - alkyl arylene or aryl alkylene and M is metal ion from the 2nd or 3rd main or auxiliary group of the periodic table. Further m is 2 or 3, n is 1 or 3, and x is 1 or 2. The compound further comprises 5 - 60% by weight of a fibre- or particle-like filler or mixtures thereof and 0.05 - 10% by weight by additional additives wherein the sum of the proportions is 100% by weight.

The Saga reference cited by the Examiner claims priority from provisional application 60/508,540, filed on October 3, 2003. The present application is an international application claiming priority from German patent application DE 103 46 326.7, filed on October 6, 2003, with an international filing date of October 6, 2004.

It is respectfully submitted that the disclosure of the provisional application, from which the Saga reference claimed priority, is not fully consistent with the disclosure cited by the Examiner in the present Office action. Specifically, the reference discloses 20-90% of a polyamide and a phenolic resin. The Examiner notes that Saga teaches 8 to 89.1% of a polyamide which can be a mixture of aliphatic polyamides and aromatic polyamides. While the provisional application does appear to support both aliphatic and aromatic polyamides, and mixtures thereof, the ratio cited by the Examiner does not appear to be supported in the provisional application. It is therefore submitted that the provisional application does not properly support the disclosure of the later filed utility application of Saga in this regard.

As noted above, the priority date for the present international application antedates the filing of Saga's utility application. Without support of the provisional application date, it is respectfully submitted that Saga would not be a reference against the present application. As it is submitted, for the reasons above, that Saga's provisional application does not provide support for the later filed utility application, in regard to the subject matter under discussion, that Saga is not an effective reference against the present application. It is therefore requested that this rejection be reconsidered and withdrawn.

However, if this rejection is not removed on this basis, applicants believe the present invention is inventive over the applied art of record.

Saga describes a flame retardant composition comprising 20-90% of (A) polyamide and (B) phenolic resin, wherein the ratio of (A) to (B) is between 99:1 and

40:60 by weight. These ratios clearly define that the presence of the phenolic resin is strictly required.

Further, while paragraphs 0015-0017 of the description describe various polymers (copolymers and homopolymers), containing different monomers, nothing discloses 20-80% by weight of one or more aliphatic polyamides, 1-40% by weight of one or more partly aromatic amides, selected from the group consisting of polyamides, the periodical units of which are derived from terephthalic acid and isophthalic acid and adipinic acid and also hexamethylene diamine as disclosed in the present invention. Not only are these not disclosed, there is no suggestion of any form to select these specific types of polymers claimed in the present invention.

It is further noted that Saga discloses 5-50% flame retardant, but the example shows a 20 weight % concentration of flame retardant. There is nothing in Saga suggesting the use of such a small amount of flame retardant as claimed in the present invention. The present invention demonstrates superior flameproofing properties despite the lower amount of flame retardant. This is discussed in the specification of the present invention as is shown on the tables presented therewith. The flameproofing agent disclosed therein is in the weight percentage of 12-15 and the values tested according to UL-94 (inflammability test) are always V-0, even with a test thickness of 0.4. Even this low an amount of flame retardant delivers superior results when used according to the present invention.

The Examiner concedes that Saga fails to teach the exact amount of aliphatic polyamide and aromatic polyamides as claimed. Saga also does not teach the amount of additional additives claimed.

It is noted that the method of Sugino is discussed in the specification of the present application. It is noted therein that the Sugino reference utilizes red phosphorous in its flame retardant composition. The present invention avoids the use of red phosphorous as it is not a preferred material for use in making a flame retardant. Specifically, considerable safety precautions must be taken with the use of red phosphorous in manufacturing because of the potential production of the toxic phosphine. Additionally, the use of red phosphorous is limiting in that it introduces an inherent dark color into the molding composition which may not be desired for a particular application. This color can prevent preferred colors from later being manufactured.

It is respectfully submitted that one skilled in the art would not be motivated to combine the Sugino and Saga references, and even if he did, this combination would not teach the present claimed invention to one skilled in the art. Saga does not disclose any teaching combining specific amounts of aliphatic and aromatic polyamides. Instead, there are only general statements that they can be used. Sugino teaches partly aromatic and aliphatic polyamides in the amount of 10:90 to 90:10. This range is so broad that one skilled in the art would not derive the particular ratios claimed in the present invention outside of significant experimentation. There is nothing in this reference which would lead one skilled in the art to the proportions claimed in the present claim 11.

The Examiner cites Schmid to show up to 20% of the usual additives, including pigments and stabilizers. It is respectfully submitted that nothing in Schmid effects the analysis above, with respect to the aliphatic and aromatic polyamides. However, it

should also be noted that Schmid requires 40-70 wt % magnesium hydroxide. It is respectfully submitted that one skilled in the art would not look to this reference in any case, as this significant proportion of magnesium hydroxide is unrelated to the components of the present invention. One skilled in the art using the components of the present invention would not look to Schmid relative to additives, when the base compositions are so significantly different.

Claim 11, as noted above, has been amended to more precisely show the compounds utilized and the ratios of components in the invention. It is respectfully submitted that no reasonable combination of the applied references show the compound as claimed in claim 11 as amended. In view of this, and in view of the improved properties of the invention relative to the applied reference, as discussed above, It is respectfully submitted that no reasonable combination of the applied references yield the invention as claimed in claim 11. One skilled in the art would not come to the teachings of the present invention from the references cited.

Claims 13-15 and 17-20, which depend directly or indirectly from independent claim 11, are believed to be allowable based, at least, upon this dependence.

Should the Examiner wish to modify the application in any way, applicant's attorney suggests a telephone interview in order to expedite the prosecution of the application.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Mark A. Hixon".

Mark A. Hixon
Registration No. 44,766

ATTORNEYS

Marshall & Melhorn, LLC
Four SeaGate - 8th Floor
Toledo, Ohio 43604
(419) 249-7114
(419) 249-7151 Facsimile
Hixon@marshall-melhorn.com